Fig. 1

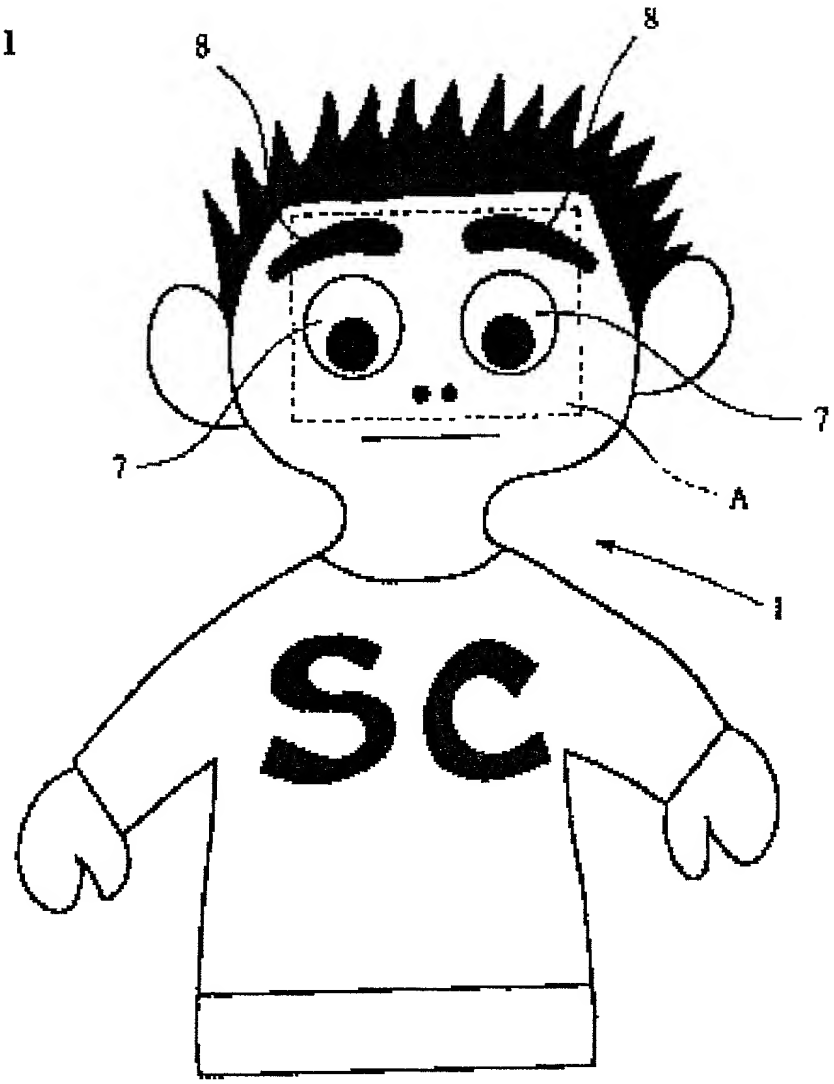


Fig. 2

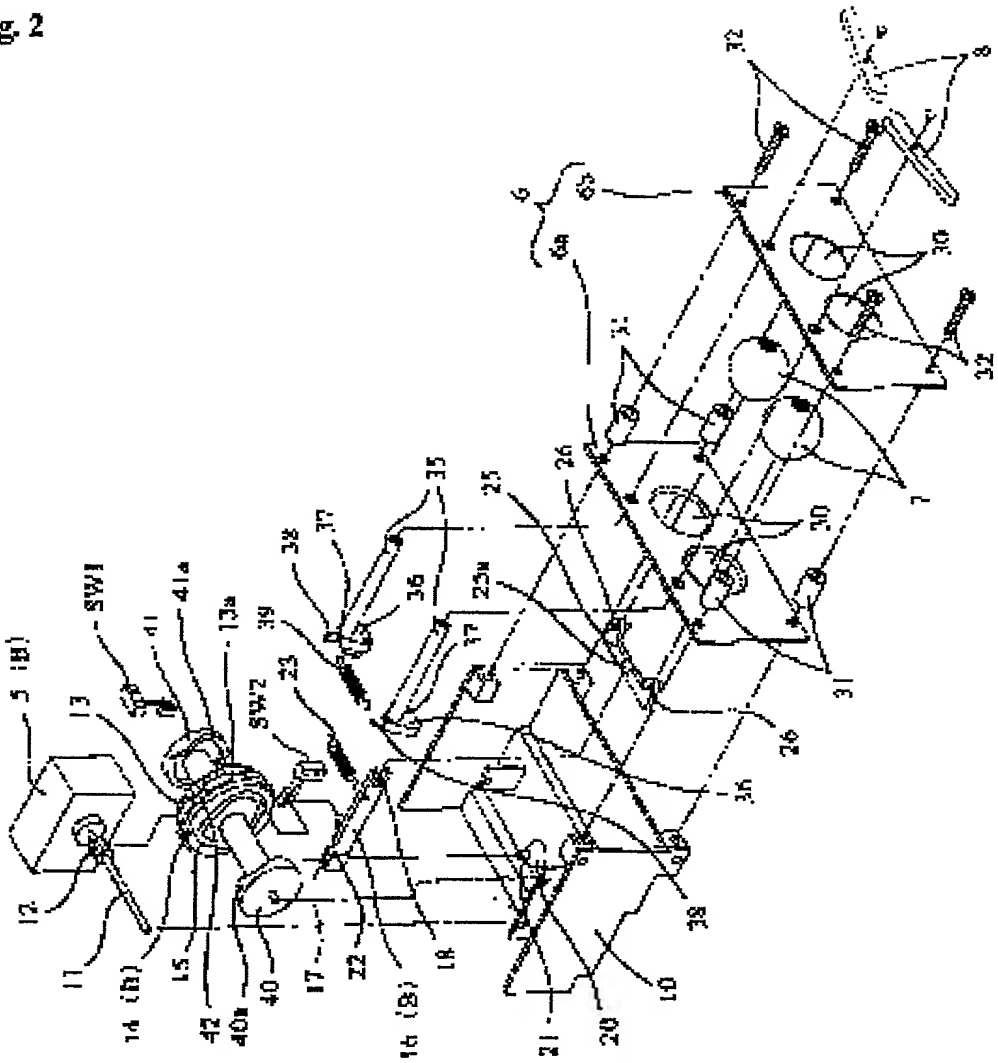
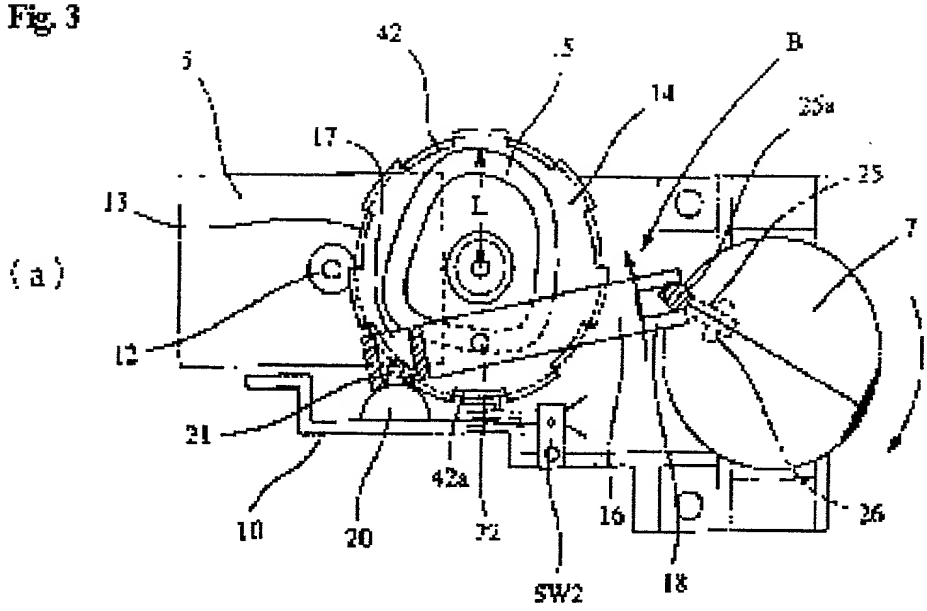

SW1
SW2
5 (B)
11
12
13
14 (B)
15
16 (B)
17
18
20
21
22
23
25
25a
26
30
31
32
35
36
37
38
39
40
40a
41
41a
42
13a

Fig. 3


(a)
42
5
B
14
17
25a
25
13
L
7
12
21
42a
16
26
10
20
SW2
18

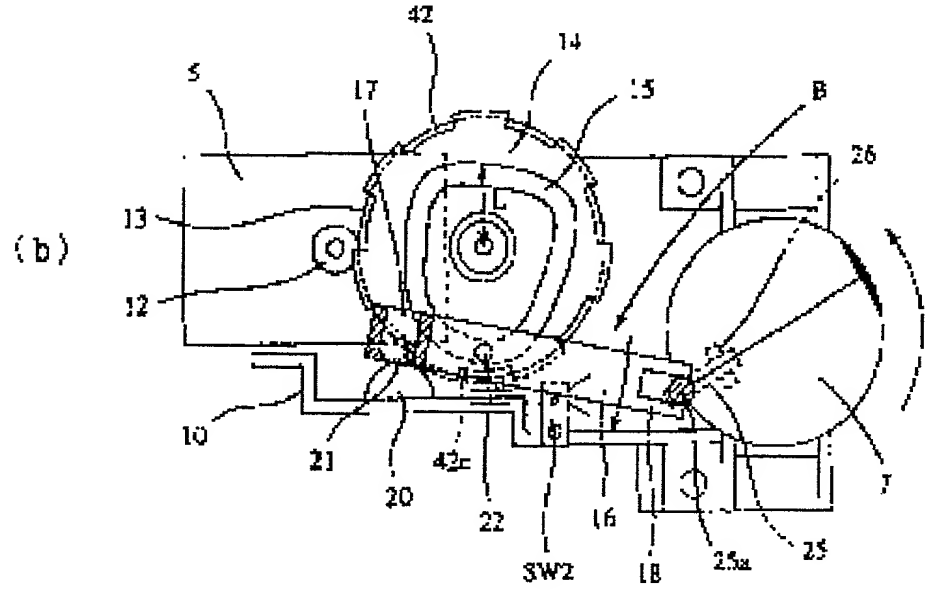
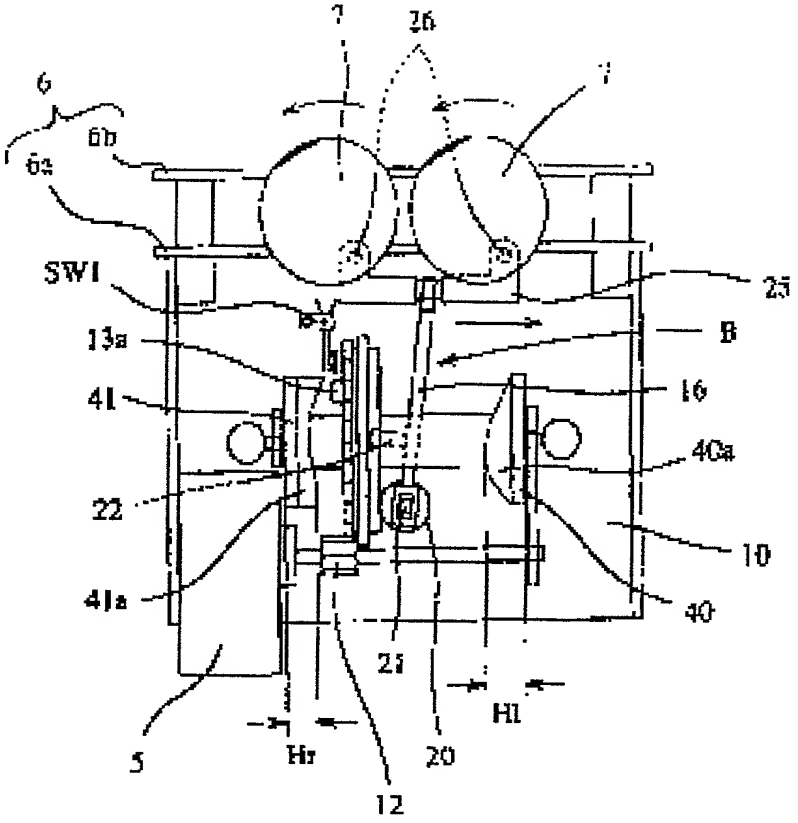

(b)
42
14
5
17
B
26
13
12
10
21
20
42a
22
16
SW2
18
25a
25
7

Fig. 4

(a)


7
26
7
6
6b
6a
SW1
25
13a
B
41
16
40a
22
10
41a
40
21
H1
Hr
5
20
12

(b)

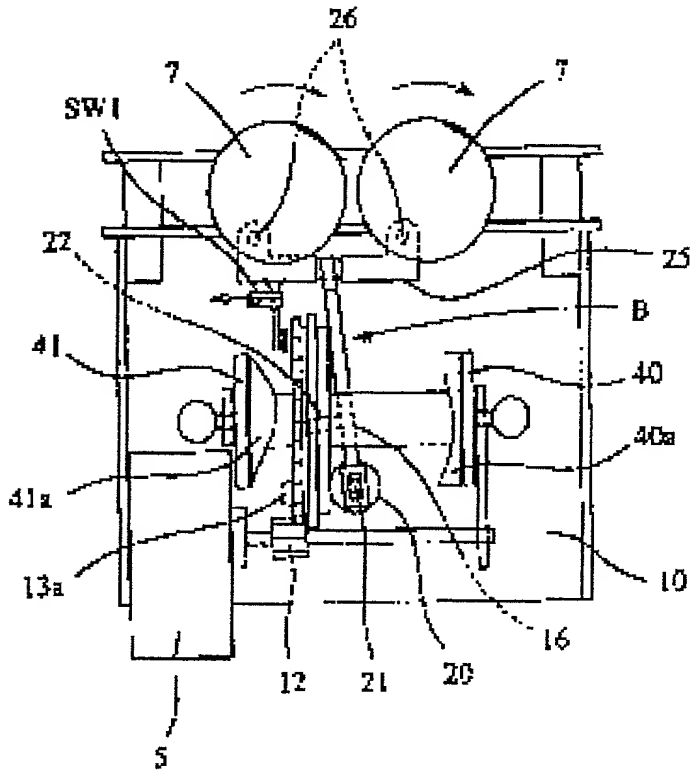

26
7
7
SW1
22
25
B
41
40
40a
41a
13a
10
16
12
21
20
5

Fig. 5

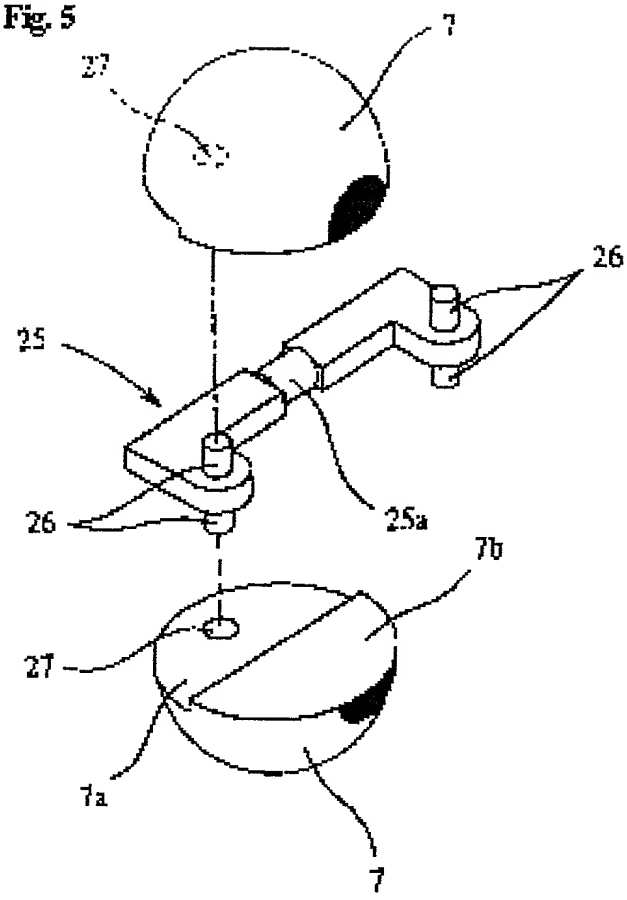
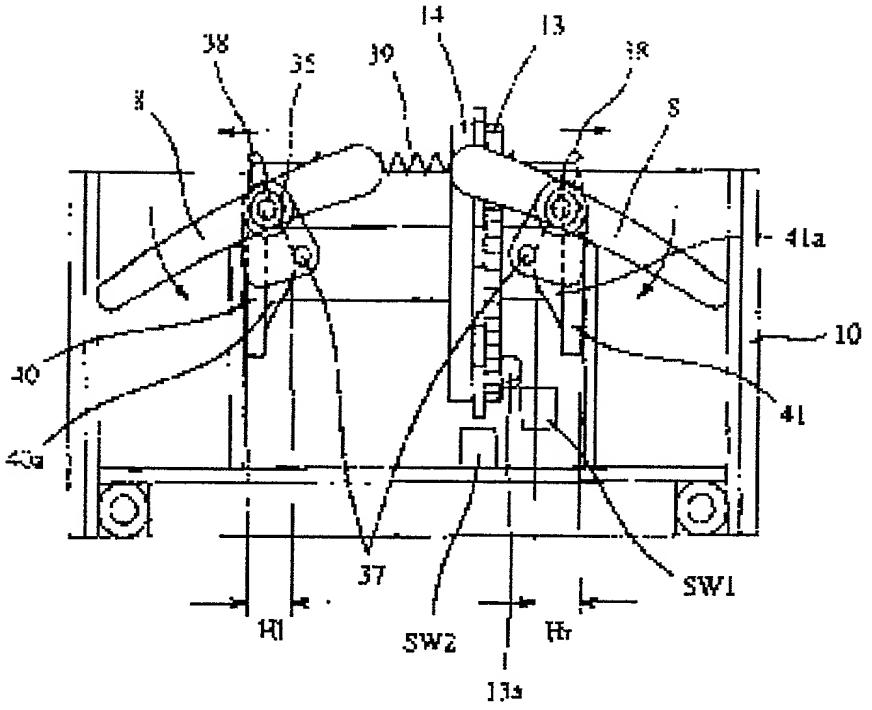
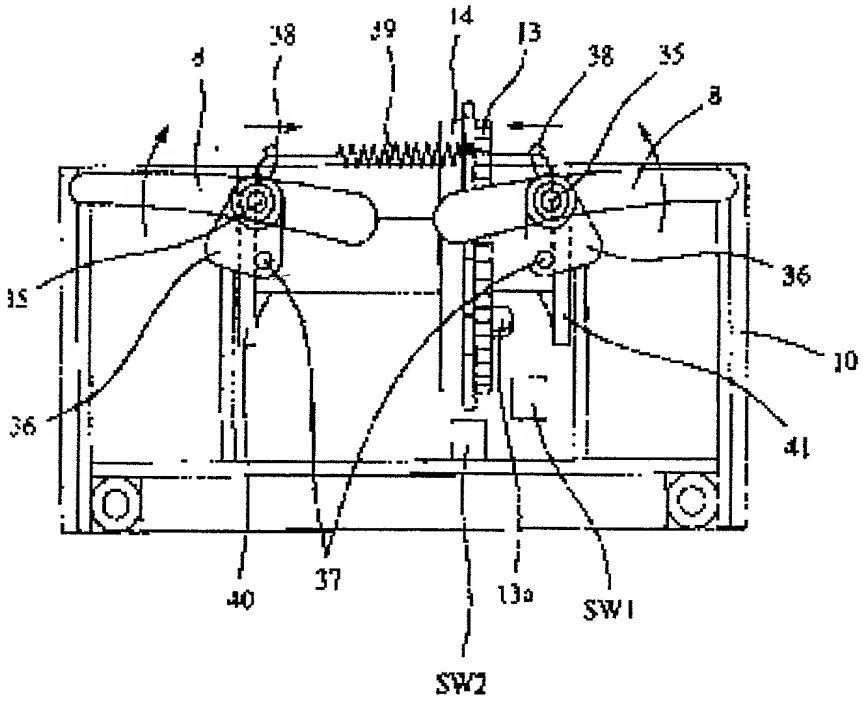


Fig. 6

(a)


38
35
39
14
13
38
8
8
41a
10
40
41
40a
37
SW1
H1
SW2
Hr
13a

(b)


8
38
39
14
13
38
35
8
35
36
10
36
41
40
37
13a
SW1
SW2

PCT/KR2003/000000

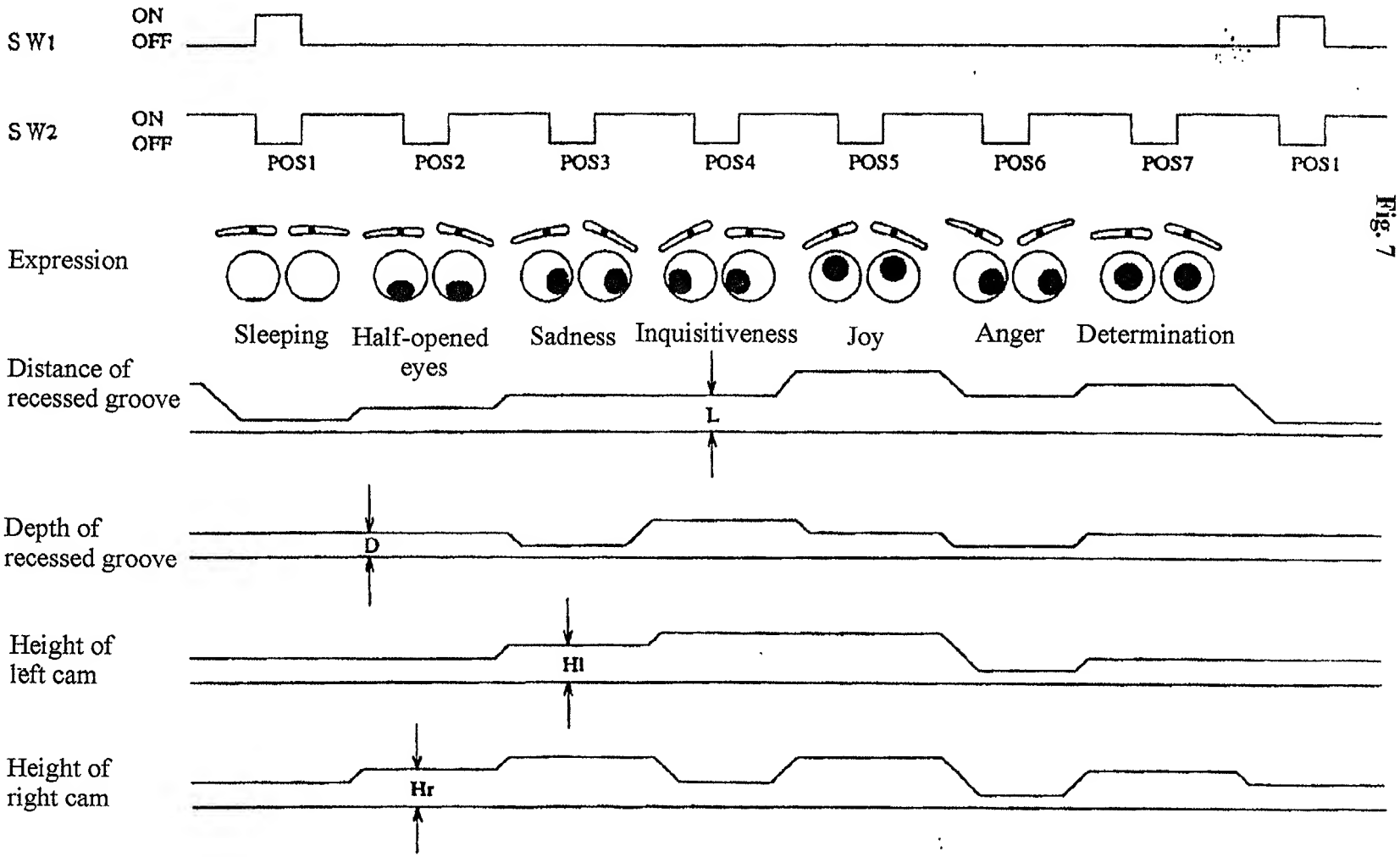


Fig. 7

Fig. 8

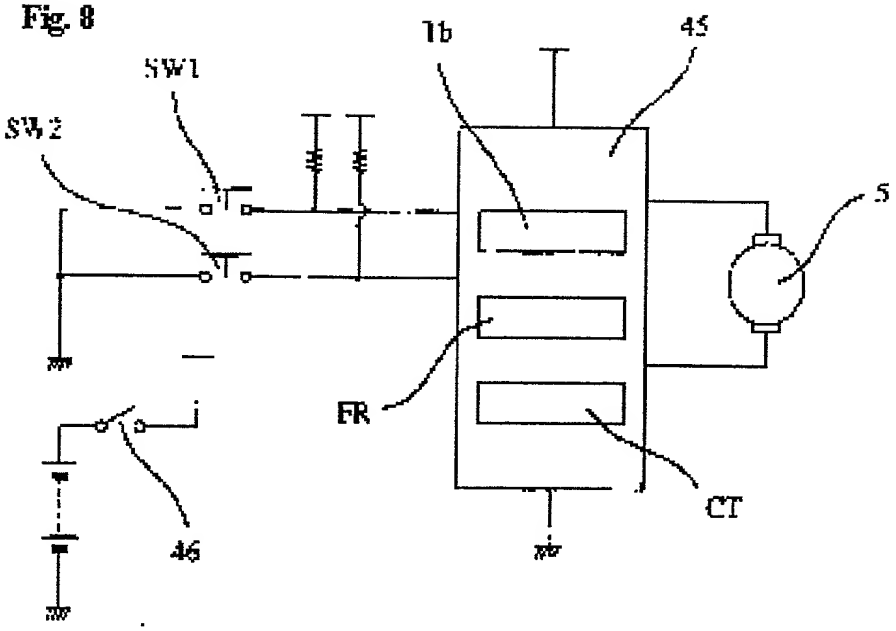
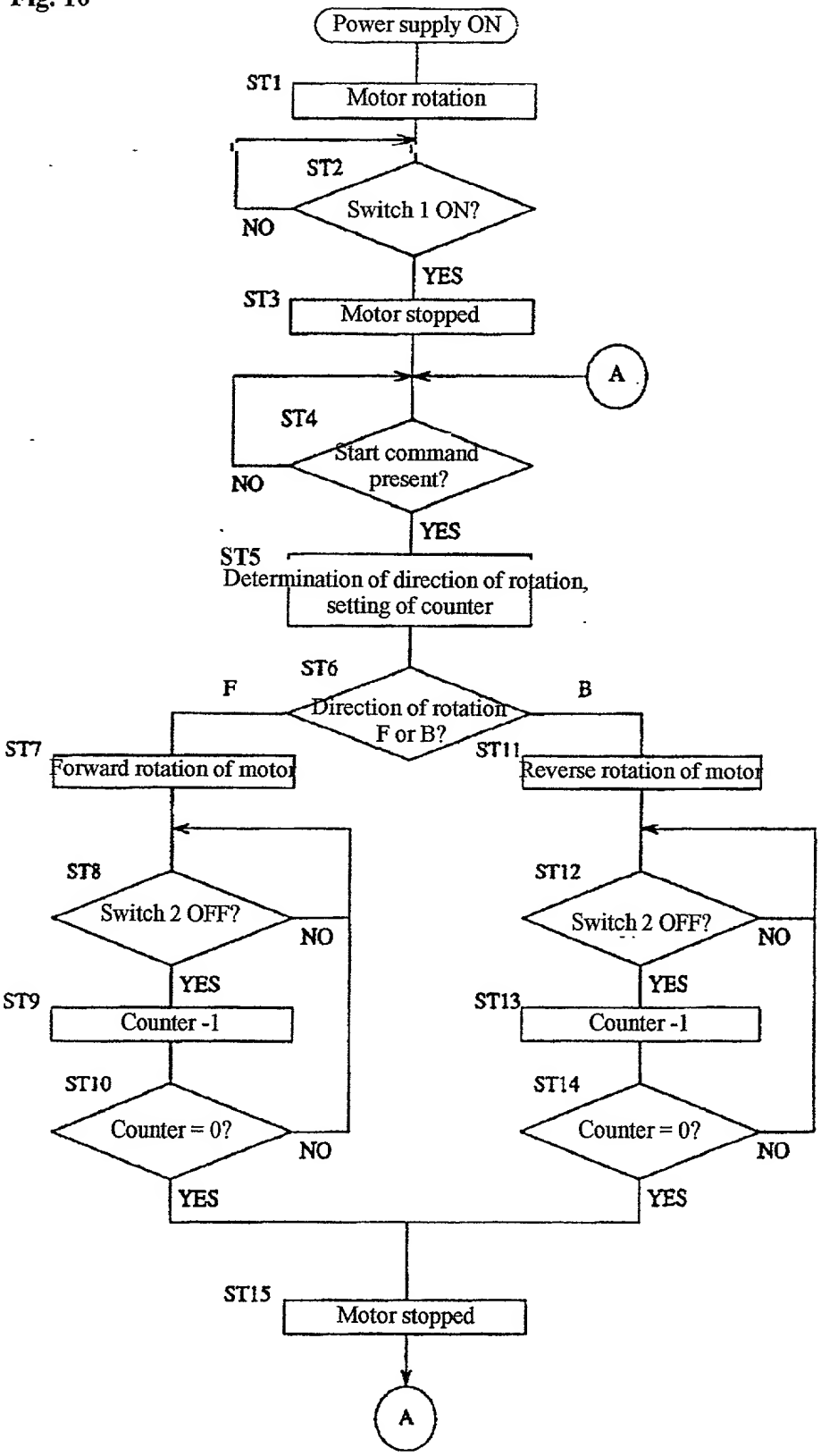


Fig. 9

Current POS	Destination POS	Amount of rotation	Direction of rotation
POS 1	POS 2	1	F (Forward rotation)
	POS 3	2	
	POS 4	3	
	POS 5	3	B (Reverse rotation)
	POS 6	2	
	POS 7	1	
POS 2	POS 3	1	F (Forward rotation)
	POS 4	2	
	POS 5	3	
	POS 6	3	B (Reverse rotation)
	POS 7	2	
	POS 1	1	
POS 3	POS 4	1	F (Forward rotation)
	POS 5	2	
	POS 6	3	
	POS 7	3	B (Reverse rotation)
	POS 1	2	
	POS 2	1	
POS 4	POS 5	1	F (Forward rotation)
	POS 6	2	
	POS 7	3	

Fig. 10


Power supply ON
ST1
Motor rotation
ST2
Switch 1 ON?
NO
YES
ST3
Motor stopped
A
ST4
Start command present?
NO
YES
ST5
Determination of direction of rotation, setting of counter
ST6
F
Direction of rotation F or B?
B
ST7
Forward rotation of motor
ST11
Reverse rotation of motor
ST8
Switch 2 OFF?
NO
YES
ST12
Switch 2 OFF?
NO
YES
ST9
Counter -1
ST13
Counter -1
ST10
Counter = 0?
NO
YES
ST14
Counter = 0?
NO
YES
ST15
Motor stopped
A